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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/748,386	12/29/2003	Sang Yub Han	10125/4135	8162

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EXAMINER	
SCHECHTER, ANDREW M	
ART UNIT	PAPER NUMBER
2871	

DATE MAILED: 04/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/748,386	HAN, SANG YUB	
	Examiner	Art Unit	
	Andrew Schechter	2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 February 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8 and 10-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8 and 10-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *29 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2 February 2006 has been entered.

Specification

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Drawings

3. The drawings are objected to because of a possible minor issue. To the examiner it appears that the wrinkle in Fig. 4 should be at the free endpoint of the TD axis rather than at the free endpoint of the MD axis (compare Fig. 8, in which the securing point has been shifted to eliminate the wrinkle, and consider that the wrinkles would seem to occur when both endpoints along the MD axis are securely fixed). Is this correct? If so, a corrected drawing is required. (The examiner suggests that the drawing should be unchanged, but the labels "TD axis" and "MD axis" should be

switched in Fig. 4 but not in Fig. 8). The examiner would appreciate any clarification by the applicant on this matter.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Response to Arguments

4. Applicant's arguments filed 2 February 2006 have been fully considered but they are not persuasive.

The applicant argues [pp. 4-5] that *Kim '396* does not disclose the optical sheet "fixedly secured to the main support through first securing point...". This is not

persuasive. *Kim '396* teaches "fixing the sheets to the mold frame" [abstract] and states that the sheets are "firmly fixed to the mold frame without restriction in the thermal expansion space" [col. 8, lines 22-27]. Thus, the structure of *Kim '396* both fixedly secures the sheets and allows them some ability to expand, to prevent wrinkling [abstract], which is also the goal of the present invention.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1-4 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Kim*, U.S. Patent No. 6,175,396 in view of *Hara,* U.S. Patent No. 6,661,482 in view of *Lien et al.*, U.S. Patent No. 5,309,264, *Koike et al.,* U.S. Patent No. 5,745,206, and *Kim et al.,* U.S. Patent No. 6,005,650.

Kim '396 discloses [see Figs. 1 and 11, for instance] a liquid crystal display module comprising a main support [1] and an optical sheet [3] fixedly secured [see discussion above under Response to Arguments] to the main support through a first securing point [600] close to one end of a first diagonal line having a first thermal expansion coefficient of the optical sheet, and secured to the main support through a second and third securing points close to ends of a second diagonal line having a

second thermal expansion coefficient of the optical sheet [col. 11, lines 20-26 discloses a positioner near each corner].

Kim '396 does not disclose that the first and second thermal coefficients have differing values. *Hara* discloses a DBEF plate [just like the one discussed in the applicant's specification, see paragraph 0027] with the axes of the DBEF plate matching the axes of the polarizer [col. 8, lines 12-33]. It would have been obvious to one of ordinary skill in the art at the time of the invention to use such a DBEF sheet as the optical sheet in *Kim '396*, motivated by the desire to provide properly polarized light to the LCD and by *Hara's* teaching that it increases the light utilization efficiency compared to using a normal polarizer alone [col. 8, lines 12-33].

Kim '396 in view of *Hara* discloses that the axes of the DBEF plate, with their high and low thermal expansion coefficients [characteristic of the plate, as discussed by the applicant], are along the axes of the polarizing sheet (which could be applied with the DBEF sheet as *Hara* does or separately). However, they do not disclose that the axes of the polarizing sheet are along the diagonals of the device.

The examiner takes official notice that is well-known and conventional to have the axes of the polarizing sheet along the diagonals of the device, as evidenced by *Lien* [Fig. 2, col. 4, lines 37-47], *Koike* [Fig. 1, col. 5, lines 62-67], and *Kim* [Fig. 2, col. 6, lines 37-49]. It would have been obvious to one of ordinary skill in the art at the time of the invention to do so in the above device, motivated by the specific reasons given by the individual references and also by it being a conventional arrangement of these axes, which means it is well-understood, manufacturing processes for producing such

arrangements are available, etc. Therefore, it would be obvious to one of ordinary skill in the art at the time of the invention that the first and second thermal coefficients along the first and second diagonal lines should have differing values.

Claim 1 is therefore unpatentable.

Kim '396 discloses protrusions [600, etc.], so claim 2 is also unpatentable. There are holes [3a] and ears, so claims 3 and 4 are also unpatentable. The optical sheet includes a DBEF film, so claim 10 is also unpatentable.

7. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Kim '396*, *Hara, Lien, Koike,* and *Kim '650* as applied above, and further in view of *An et al.,* U.S. Patent No. 6,392,724.

The above device does not disclose a guide panel with holes for the protrusions. *An* discloses [see Fig. 4] a guide panel [150] having holes [151] into which the analogous protrusions [172] are inserted. It would have been obvious to one of ordinary skill in the art at the time of the invention to use a guide panel with such holes, motivated by the desire to secure the optical sheets and by *An's* teaching that with this hole, the protrusion is not affected by the panel guide (so, for instance, all the pieces fit together nicely) [col. 6, lines 45-48]. Claims 5 and 6 are therefore unpatentable.

8. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Kim '396*, *Hara, Lien, Koike,* and *Kim '650* as applied above, and further in view of *Kim*, U.S. Patent No. 6,847,417.

Kim '396 discloses a liquid crystal display panel [4] supported by the main support; and a light guide plate [2] supported by the main support at a lower portion of

the optical sheet. *Kim '396* does not disclose a reflective sheet as recited. *Kim '417* does disclose a reflective sheet [360] in an analogous position, and it would have been obvious to one of ordinary skill in the art at the time of the invention to use it in the device of *Kim '396,* motivated by the desire to maximize the efficiency of light usage and provide more light to the LCD panel. Claim 7 is therefore unpatentable.

9. Claims 8, 11, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Kim '396, Hara, Lien, Koike,* and *Kim '650* as applied above, and further in view of *Cho,* U.S. Patent No. 6,580,477.

Kim '396 discloses that the positioners can be installed "near the corner of a mold frame" [col. 11, lines 20-26], but does not explicitly disclose being less than 1/10 of the entire length from the corner. Thus, the ranges "near the corner" and "less than 1/10 of the entire length from the corner" are overlapping ranges, in which situation a *prima facie* case of obviousness exists. Further, *Cho* discloses having such holes at the corners [Fig. 4]. It would have been obvious to one of ordinary skill in the art at the time of the invention to place them within 1/10 of the entire length from the corners, motivated by the example of *Cho* that this satisfactorily secures such optical sheets. Claims 11 and 12 are therefore unpatentable.

When the positioners are disposed as shown in *Cho*'s Fig. 4, at the corners with two along the top side and two along the bottom side, the limitation of the amended claim 8 is also met, as follows. A number of securing points [one] on a first side portion of the optical sheet [the portion being the left-hand half of the top side] is different from a

number of securing points [two] on a second side portion of the optical sheet [the portion being the entire bottom side]. Claim 8 is therefore unpatentable.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Regarding claim 8, indicated as allowable before the most recent amendment, the examiner notes U.S. Patent No. 6,847,417 to *Kim* also discloses an LCD with an optical sheet fixedly secured to the main support. This reference is similar to the presently disclosed invention in having three securing points, but it appears that they are that way for mechanical reasons unrelated to the thermal expansion parameters of the optical sheets, so it would not have been obvious to one of ordinary skill in the art at the time of the invention to align the low thermal expansion diagonal with two securing points and the high diagonal with one securing point, absent the teaching of the present specification [this limitation is not presently claimed, however].

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Schechter whose telephone number is (571) 272-2302. The examiner can normally be reached on Monday - Friday, 9:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on (571) 272-2415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Andrew Schechter
Primary Examiner
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5 April 2006